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BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				CHOI, MICHAEL P
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/814,198	YOON ET AL.	
	Examiner	Art Unit	
	Michael Choi	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 17 January 2008.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-20 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) Notice of Informal Patent Application

6) Other: _____.

DETAILED ACTION***Response to Arguments***

1. Applicant's arguments filed 1/17/08 have been fully considered but they are not persuasive.

As per remarks on page 9, applicant argues that Cavallerano does not disclose or suggest "wherein the broadcast signal is received by the decoding unit from a single tuner" as recited in amended claim 1.

In response, Cavallerano teaches wherein the broadcast signal is received by the decoding unit from a single tuner as explicitly stated in Page 2, Paragraph [0025] – reception by a single tuner wherein having the detected event displayed in main rather than picture-in-picture.

As per remarks on page 9 and 10, applicant argues that Cavallerano does not disclose or suggest selecting a time shift mode using a mode setup unit as recited in claim 11.

In response, Cavallerano teaches selecting a time shift mode using a mode setup unit as explicitly seen in Page 2, Paragraph [0024] – user interface, inputting particular event and eventually displaying selected event.

As per remarks on page 10, applicant argues that Norworthy does not disclose or suggest "a mode setup unit configured to set a mode of an inputted broadcast signal" or "a time shift decoding unit configured to decode a time shift signal outputted from the recording/storage unit." in claim 10.

In response, Norworthy was used in combination with Cavallerano to teach a mode setup unit configured to set a mode of an inputted broadcast signal as clearly shown in at least Figs. 1, 3 further clarified in that the controller controls the setting of the input signal through the tuner. Also in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

As per remarks on page 11, applicant argues that Takahashi does not disclose or suggest selecting a time shift mode using a mode setup unit.

In response, Takahashi was used to teach a reproducing end position of a time shift signal being recorded and switching of the screen. Cavallerano teaches selecting a time shift mode using a mode setup unit as explicitly stated in Page 2, Paragraph [0024] – user interface, inputting particular event and eventually displaying selected event. Also in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-4, 9 and 11-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Cavallerano et al. (US 2002/0057372 A1).

Regarding Claim 1, Cavallerano et al. teaches an image recording and reproducing apparatus, comprising:

- a decoding unit configured to tune a live signal (Fig. 2, 30; Paragraph [0022]) and a time shift signal in a time shift mode (Fig. 2, 40; Paragraph [0023]), the live signal and the time shift signal being branched from a broadcast signal (Fig. 2 – RF in wherein the PIP channel feed is directed away from the main channel feed);

- a signal synthesizing unit configured to synthesize the decoded live signal and the decoded time shift signal (Fig. 2, 90 – multiplexing baseband main and PIP channels; Paragraph [0023] - multiplexer); and
- a display unit configured to display the synthesized signals (Fig. 1, 2; Fig. 2, video/audio out; Paragraph [0021]), wherein the broadcast signal is received by the decoding unit from a single tuner (Page 2, Paragraph [0025] – reception by a single tuner wherein having the detected event displayed in main rather than picture-in-picture).

Regarding Claim 2, Cavallerano et al. teaches the image recording and reproducing apparatus according to claim 1, further comprising a recording/storing unit configured to record and store the time shift signal (Fig. 2, 60 – delay memory; Paragraph [0023]).

Regarding Claim 3, Cavallerano et al. teaches the image recording and reproducing apparatus according to claim 1, wherein the decoding unit includes: a first decoder configured to decode the live signal (Fig. 2, 30; Paragraph [0022]); and a second decoder configured to decode the time shift signal (Fig. 2, 40; Paragraph [0023]).

Regarding Claim 9, Cavallerano et al. teaches the image recording and reproducing apparatus according to claim 1, wherein the display unit is configured to display the synthesized signals on at least one split screen (Fig. 1).

Regarding Claim 11, Cavallerano et al. teaches an image recording and reproducing method, comprising the steps of:

- selecting a time shift mode using a mode setup unit (Page 2, Paragraph [0024] – user interface, inputting particular event and eventually displaying selected event);
- when a signal is reproduced in a time shift mode (Fig. 2, 90 – video/audio out from 15 second delay memory, 60),

- decoding a live signal (Fig. 2, 30; Paragraph [0022]) and a time shift signal (Fig. 2, 40; Paragraph [0023]) through first and second decoding units, respectively, the live signal and the time shift signal being branched from a broadcast signal (Fig. 2 – RF in wherein the PIP channel feed is directed away from the main channel feed);
- synthesizing the decoded live signal and the decoded time shift signal (Fig 2, 90 – multiplexing baseband main and PIP channels; Paragraph [0023] - multiplexer); and
- displaying the synthesized signals (Fig. 1, 2; Fig. 2, video/audio out; Paragraph [0021]).

Regarding Claim 12, Cavallerano et al. teaches the image recording and reproducing method according to claim 11, wherein the time shift signal is recorded and stored in a recording/storing unit (Fig. 2, 60 – delay memory; Paragraph [0023]).

Regarding Claim 13, Cavallerano et al. teaches the image recording and reproducing method according to claim 11, wherein the broadcast signal is contents inputted through one channel (Fig. 2 – RF into main channel).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5-7 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cavallerano et al. (US 2002/0057372 A1).

Regarding Claim 5, Cavallerano et al. teaches the image recording and reproducing apparatus according to claim 1, wherein the signal synthesizing unit is configured to synthesize the decoded time

shift signal (Fig. 2, 40; Paragraph [0023]) and the decoded live signal (Fig. 2, 30; Paragraph [0022]) to be displayed on one screen (Fig. 1; Paragraphs [0002,0003]) when a user request a reproduction of a current broadcasting (Paragraphs [0007,0024] - user selection which is detects current broadcast and displayed in main - Paragraph [0025]; Paragraphs [0002,0003]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to display only the decoded signal as was the case for any television set displaying television signals without picture in picture capability. Also, not requiring a time shift signal would have been obvious to one of ordinary skill in the art since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art (Nerwin v. Erlinchman, 168 USPQ 177, 179).

Regarding Claim 6, Cavallerano et al. teaches the image recording and reproducing apparatus according to claim 1, wherein the signal synthesizing unit (Fig 2, 90 – multiplexing baseband main and PIP channels; Paragraph [0023] - multiplexer) is configured to synthesize the signals to display the live signal and the time shift signal on a main screen and a sub-screen (Fig. 1, 2; Paragraph [0021]), respectively, the main screen and the sub-screen belonging to one screen (in at least Fig. 1) when a user requests a reproduction of a current broadcasting (Paragraphs [0007,0024] - user selection which is detects current broadcast and displayed in main - Paragraph [0025]; Paragraphs [0002,0003]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow a user to request reproduction of a current broadcasting (as aforementioned) as mentioned in the background of the specifications of Cavallerano et al.

Regarding Claim 7, Cavallerano et al. teaches the image recording and reproducing apparatus according to claim 1, wherein the signal synthesizing unit (Fig 2, 90 – multiplexing baseband main and PIP channels; Paragraph [0023] - multiplexer) is configured to synthesize the signals to display the time shift signal and the live signal on a main screen and a sub-screen (Fig. 1, 2; Paragraph [0021]), respectively, the main screen and the sub-screen belonging to one screen (in at least Fig. 1) when a user

requests a reproduction of a previous broadcasting (Paragraph [0002-0003] – swap the program being viewed in the main display with the PIP).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow a user to request reproduction of a current broadcasting (as aforementioned) as mentioned in the background of the specifications of Cavallerano et al.

Regarding Claim 14, Cavallerano et al. teaches the image recording and reproducing method according to claim 11, wherein, when a user requests a reproduction of a current broadcasting, the signals are synthesized to display only the decoded signals on one screen (Fig. 1; Paragraphs [0002,0003]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to display only the decoded signal as was the case for any television set displaying television signals without picture in picture capability. Also, not requiring a time shift signal would have been obvious to one of ordinary skill in the art since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art (Nerwin v. Erlinchman, 168 USPQ 177, 179).

Regarding Claim 15, Cavallerano et al. teaches the image recording and reproducing method according to claim 11, wherein, when a reproduction of a current broadcasting is requested from a user (Paragraphs [0002,0003]), the signals are synthesized (Fig 2, 90 – multiplexing baseband main and PIP channels; Paragraph [0023] - multiplexer) to display the live signal and the time shift signal on a main screen and a sub-screen (Fig. 1, 2; Paragraph [0021]), respectively, the main screen and the sub-screen belonging to one screen (in at least Fig. 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow a user to request reproduction of a current broadcasting (as aforementioned) as mentioned in the background of the specifications of Cavallerano et al.

Regarding Claim 16, Cavallerano et al. teaches the image recording and reproducing method according to claim 11, wherein when a reproduction of a previous broadcasting is requested from a user (Paragraph [0002-0003] – swap the program being viewed in the main display with the PIP by user), the signals are synthesized (Fig 2, 90 – multiplexing baseband main and PIP channels; Paragraph [0023] - multiplexer) to display the time shift signal and the live signal on a main screen and a sub-screen (Fig. 1, 2; Paragraph [0021]), respectively, the main screen and the sub-screen belonging to one screen (in at least Fig. 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow a user to request reproduction of a current broadcasting (as aforementioned) as mentioned in the background of the specifications of Cavallerano et al.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cavallerano et al. (US 2002/0057372 A1) in view of Norsworthy (US 2002/0067433 A1).

Regarding Claim 10, Cavallerano et al. teaches an image recording and reproducing apparatus, comprising:

- a recording/storing unit configured to selectively store the broadcasting signal according to the mode set by the mode setup unit (Fig. 2, 60 – delay memory; Paragraph [0023]);
- a live decoding unit configured to decode a live signal branched in the mode setup unit (Fig. 2, 30; Paragraph [0022]);
- a time shift decoding unit configured to decode a time shift signal outputted from the recording/storing unit (Fig. 2, 40; Paragraph [0023]);
- a signal synthesizing unit configured to synthesize the decoded live signal and the decoded time shift signal (Fig 2, 90 – multiplexing baseband main and PIP channels; Paragraph [0023] - multiplexer); and

- a display unit configured to display the synthesized signals (Fig. 1, 2; Fig. 2, video/audio out; Paragraph [0021]).

Cavallerano et al. fails to teach a mode setup unit configured to set a mode of an inputted broadcast signal and that a time shift decoding unit for decoding a time shift signal outputted from the recording/storing unit. Norsworthy et al. teaches a mode setup unit for setting a mode of an inputted broadcast signal (in at least Figs. 1, 3 - further clarified in that the controller controls the setting of the input signal through the tuner).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine an antenna so as to allow reception of various broadcasts through a range of channels for picture in picture use concurrent of an immediate programming. Also, it would have been obvious to a have time shift decoding unit for decoding a time shift signal outputted into the recording/storing unit as opposed to from the recording/storing unit since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art (In re Einstein, 8 USPQ 167) as well as the provision of adjustability, where needed, involves only routine skill in the art (in re Stevens, 101 USPQ 284 (CCPA 1954)).

8. Claims 8 and 17-20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cavallerano et al. (US 2002/0057372 A1) in view of Takahashi et al. (US 2003/0099457 A1).

Regarding Claim 8, Cavallerano et al. teaches the image recording and reproducing apparatus according to claim 2, wherein, when the screen switches from the previous broadcasting to the current broadcasting (Paragraphs [0002,0003]), but fails to explicitly teach a reproducing end position of the time shift signal is recorded, and when the screen again switches from the current broadcasting to the previous broadcasting, the signal synthesizing unit synthesizes the decoded time shift signal and decoded live signal to display the time shift signal from the recorded reproducing end position. Takahashi et al. teaches a reproducing end position of the time shift signal is recorded (Page 11, claim 1), and when

the screen again switches from the current broadcasting to the previous broadcasting, the signal synthesizing unit synthesizes the signals to display the decoded time shift signal and decoded live signal from the recorded reproducing end position (Page 11, claim 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Cavallerano et al. and Takahashi et al. so as to allow the user to view a part of a program content during an interruption or a switch to another program, to commence viewing continuously afterwards by resumption of the saved program content during the interruption or switch (Paragraphs [0004,0005]).

Regarding Claim 17, Cavallerano et al. teaches an image recording and reproducing method, comprising the steps of:

- selecting a time shift mode using a mode setup unit (Page 2, Paragraph [0024] – user interface, inputting particular event and eventually displaying selected event);
- a) when a signal is reproduced in a time shift mode (Fig. 2, 90 – video/audio out from 15 second delay memory, 60), displaying a time shift signal and a live signal on one screen at the same time in response to a user's request for a reproduction of a previous broadcasting (Fig. 1);
- b) when the user requests a reproduction of a current broadcasting during the reproduction (Paragraphs [0002,0003]), recording a reproducing end position of the time shift signal (Page 11, claim 1); and
- c) when the user requests a reproduction of a previous broadcasting again (Paragraphs [0002,0003]), reproducing the previous broadcasting from the recorded reproducing end position of the time shift signal (Page 11, claim 1).

Cavallerano explicitly fails to teach recording a reproducing end position of the time shift signal (Page 11, claim 1) and reproducing the previous broadcasting from the recorded reproducing end position of the time shift signal (Page 11, claim 1). Takahashi et al. teaches recording a reproducing end position of the time shift signal (Page 11, claim 1) and reproducing the previous broadcasting from the recorded reproducing end position of the time shift signal (Page 11, claim 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Cavallerano et al. and Takahashi et al. so as to allow the user to view a part of a program content during an interruption or a switch to another program, to commence viewing continuously afterwards by resumption of the saved program content during the interruption or switch (Paragraphs [0004,0005]). Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to allow a user to request reproduction of a current broadcasting (aforementioned) as mentioned in the background of the specifications of Cavallerano et al.

Regarding Claim 18, Cavallerano et al. teaches the image recording and reproducing method according to claim 17, wherein when the user requests a reproduction of the previous broadcasting in the step a) or c) (Paragraphs [0002,0003]), the time shift signal and the live signal are displayed on a main screen and a sub-screen (Fig. 1), respectively.

Regarding Claim 19, Cavallerano et al. teaches the image recording and reproducing method according to claim 17, wherein when the user requests the reproduction of the current broadcasting in the step b) (Paragraphs [0002,0003]), the live signal and the time shift signal are displayed on a main screen and a sub-screen, respectively (Fig. 1).

Regarding Claim 20, Cavallerano et al. teaches the image recording and reproducing method according to claim 17, wherein when the user requests the reproduction of the current broadcasting in the step b), only the live signal is displayed (Paragraphs [0002,0003]).

Conclusion

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2621

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Choi whose telephone number is (571) 272-9594. The examiner can normally be reached on Monday - Friday 9:00AM - 5:30PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (571) 272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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